

**REMARKS**

Claims 1-9 are pending in the present application. Claim 6 was objected to as being dependent on rejected claim 1. Claim 6 has been rewritten in an independent form incorporating the limitations of Claims 1 and 3. Accordingly, independent Claim 6 and Claims depending therefrom (7-9) are now in an allowable form. In addition, Claims 2 and 8 are also amended as to matter of form without adding any new subject matter. Reconsideration of the present application in view of the reasons set forth herein is respectfully requested.

Claims 1 and 2 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 5,850,394 to Sekine *et al.* (hereinafter, "Sekine") in view of U.S. Patent No. 6,377,559 to Haardt. Claim 3 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over the Sekine reference in view of the Haardt reference as applied to Claim 1 above, and further in view of U.S. Patent No. 6,760,587 to Holtzman *et al.* (hereinafter, "Holtzman"). Claims 4 and 5 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over the Sekine reference in view of the Haardt reference as applied to Claim 1 above, and further in view of the Holtzman reference and U.S. Patent No. 5,970,058 to DeClerk *et al.* (hereinafter, "DeClerk"). Claims 7-9 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over the Sekine reference in view of the Haardt reference as applied to Claim 1 above, and further in view of the Holtzman reference, the DeClerk reference and Applicant's admitted prior art. These claim rejections are respectfully traversed.

In independent Claim 1, Applicants describe and claim, among other things, scrambling signaling information to be transmitted over a second signaling channel based on the particular signaling information, from a defined set of signaling information to be transmitted over a first signaling channel. By scrambling signaling information contained in a first signaling channel, the

signaling information may be encoded into the information contained in a second signaling channel. In this manner, the present invention may improve the integrity of the information in both signaling channels without having to use any additional channel coding, and may detect and also correct errors that may occur in the first signaling channel, allowing the user information and information from the second signaling channel to be decoded correctly. See, for example, Applicant's Specification, on page 5, lines 13-25.

The Examiner acknowledges that the Sekine reference is silent on a defined set of signaling information to be transmitted over a first signaling channel, and scrambling signaling information to be transmitted over a second signaling channel based on the particular signaling information, from the defined set, to be transmitted over the first signaling channel. To provide a teaching for the features absent from the Sekine reference, the Examiner relies upon the Haardt reference. The Haardt reference, however, teaches superimposing first signaling information items with second information items at a transmitting end, and transmitting the aggregate signal in a single frequency channel for distinguishing the first signaling information items and the second information items where signaling information items are scrambled, spread in accordance with individual spread codes, and superimposed for transmission. However, the Haardt reference does not describe or suggest use of at least two signaling channels and a defined set of signaling information, for scrambling signaling information based on the particular signaling information. Therefore, the Haardt reference does not remedy the aforementioned fundamental deficiency of the primary reference.

As understood, the Sekine reference discloses a transmission device for transmitting user data and signaling data concurrently from a base station to a plurality of mobile stations. This transmission device includes a plurality of user data channels for transmitting the user data, at least

one exclusive channel for transmitting the signaling data, and a multiplexer for multiplexing the signaling data so as to transmit them to an exclusive signaling data output channel. See col. 2, lines 8-15. The transmission device further comprises a plurality of spread encoders, each corresponding to a respective one of the user data channels and the signaling data output channel, for spread encoding the user data and the signaling output data, wherein each of the plurality of spread encoders uses a different spread code. See col. 4, lines 57-61.

In contrast, the Haardt reference describes superimposing first signaling information items with second information items at a transmitting end to form an aggregate signal; transmitting the aggregate signal in a frequency channel, for distinguishing the first signaling information items and the second information items with the aid of individual structures. See col. 2, lines 3-35. The signals that are superimposed in the frequency channel to form a common broadband signal are produced by spreading the user information items, signaling information items and organization information items in a signal-processing device SP with the aid of the assigned spread code. See col. 7, lines 52-57. This is followed by scrambling in an interleaver I with a scrambling depth of 4 or 16. The scrambled data is subsequently 4-PSK-modulated in a modulator MOD, converted into 4-PSK symbols and thereupon spread in a spreading device SPR in accordance with individual spread codes. The spread data of the data channels for the user information items and the signaling information items are superimposed in an adding element S. See col. 10, lines 43-53. Thus, the Haardt reference fails to describe or suggest use of at least two signaling channels and a defined set of signaling information, for scrambling signaling information based on the particular signaling information, as claimed in Claim 1.

For at least the aforementioned reasons, Applicants respectfully submit that the pending claims are not rendered obvious to one of an ordinary skill in the art in view of the cited references,

either alone or in combination. To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). As discussed above, the Sekine reference does not describe or suggest a defined set of signaling information to be transmitted over a first signaling channel, and scrambling signaling information to be transmitted over a second signaling channel based on the particular signaling information, from the defined set, to be transmitted over the first signaling channel. The Examiner relies upon the Haardt reference to teach these claimed features. However, the Haardt reference does not remedy the aforementioned fundamental deficiency with the primary reference.

The cited references also fail to provide any suggestion or motivation for modifying the prior art to arrive at Applicant's claimed invention. Specifically, the prior art reference does not teach or suggest all the claimed features. Even if modified, the cited reference, absent a specific suggestion or motivation, fails to render the rejected claims obvious. Therefore, Applicants submit that all pending claims are patentably distinguishable over the cited references. Moreover, the Haardt reference teaches away from the present invention. In particular, the Haardt reference teaches superimposing of the first and second signaling information items in a single frequency channel and distinguishing the two signaling information items with the aid of individual fine structures, whereas the present invention teaches use of at least two signaling channels where signaling information to be transmitted over a second signaling channel is scrambled based on the particular signaling information, from a defined set of signaling information to be transmitted over a first signaling channel. It is by now well established that teaching away by the prior art constitutes *prima facie* evidence that the claimed invention is not obvious. *See, inter alia, In re Fine*, 5 U.S.P.Q.2d (BNA) 1596, 1599 (Fed. Cir. 1988); *In re Nielson*, 2 U.S.P.Q.2d (BNA) 1525, 1528 (Fed. Cir. 1987); *In re Hedges*, 228 U.S.P.Q. (BNA) 685, 687 (Fed. Cir. 1986).

For at least the aforementioned reasons, Applicants respectfully submit that the present invention is not obvious over the Sekine and Haardt references, either alone or in combination. Applicants respectfully request that the Examiner's rejections of Claims 1-2 under 35 U.S.C. 103(a) be withdrawn. Likewise, Claim 3 is allowable over the Sekine, Haardt and Holtzman references for at least the same reasons as set forth above in the context of Claims 1 and 2. Furthermore, Applicants respectfully submit that Claims 4 and 5, rejected in view of the Sekine, Haardt, Holtzman and DeClerk references, are also in condition for allowance on at least similar grounds.

Consequently, Applicants respectfully request immediate reconsideration and allowance of their pending claims in the present application. Applicants also believe that a full and complete response has been made to the Office Action. The Examiner is respectfully requested to consider all the pending claims.

In view of these remarks and amendments, the application is now in condition for allowance and Examiner's prompt action in accordance therewith is respectfully requested. If for any reason Examiner finds the application other than in condition for allowance, Examiner is respectfully requested to call the undersigned at the Houston, Texas telephone number (713) 934-4089 to discuss the steps necessary for placing the application in condition for allowance.

Date:

01/31/05

Respectfully submitted,

WILLIAMS, MORGAN & AMERSON, P.C.  
CUSTOMER NO. 46290By: Sanjeev K. Singh, Ph.D.  
Under 37 C.F.R. § 10.9(b)  
10333 Richmond, Suite 1100  
Houston, Texas 77042  
(713) 934-7000  
(713) 934-7011 (facsimile)  
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